

I. OVERVIEW

A. Management Plan

The goal of this CRMP is to provide guidelines and standard operating procedures for cultural resources management. With these guidelines and procedures, SFAAP managers may accomplish their missions and carry out their responsibilities for the management of historic properties as outlined by the NHPA, as amended through 1992.

This document provides basic standards for cultural resources management according to a body of pertinent statutes. The CRMP has been drafted to significantly reduce the management time and effort used in the evaluation of cultural resources on a case-by-case basis. Further, the implementation of these guidelines will fulfill a large portion of the Section 106 and Section 110 requirements of the NHPA.

- The ultimate goal is the successful integration of cultural resources management with mission management so that mission goals may be achieved without unnecessary delay and that historic properties may be addressed in accordance with Federal and Army regulations.
- By implementing the CRMP in a timely and cost-effective manner, the legal responsibilities of the installation to inventory and preserve historic properties (i.e., those resources considered eligible for inclusion in or presently listed on the National Register of Historic Places) will be met. An important data base will be generated so that informed decisions may be made during the design stage of projects rather than reactive decisions following the accidental discovery of, or impacts to, a historic property during the implementation of a project.

SFAAP, a government-owned contractor-operated (GOCO) facility under contract with Hercules, Inc. (contractor), is located in Johnson County, Kansas (Figures I-1 and I-2). The U.S. government has responsibility for the 9,542-acre facility. Among its missions, SFAAP has produced propellants and chemical materials; operated and maintained active facilities as well as performing maintenance or layaway of those in standby conditions; received, maintained, and salvaged field and industrial stocks; performed industrial readiness and emergency mobilization planning; and operated industrial wastewater treatment facilities. The SFAAP mission may also involve demolition and other undertakings that may seriously impact cultural resources.

SFAAP must comply with the provisions of the PA concerning Inactivation or Partial Inactivation that proposes to cease production at certain facilities in order to inactivate those plants, but to retain the plants to meet future mobilization requirements. The Inactivation PA was established among the Department of the Army, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers (see Appendix I). With the concurrence of the Kansas SHPO, the Army has determined that the military-related buildings and structures at SFAAP are ineligible for inclusion in the NRHP based on the lack of integrity. Therefore, impacts to the World War II and Cold War architectural resources on the facility have been mitigated according to the conditions of the Inactivation PA and no further management consideration of the ineligible architectural resources is necessary. The Roberts house (Building FH-3), however, is eligible for NRHP inclusion and will not fall under the stipulations of the Inactivation PA.

As stipulated by the PA (Part II.A.), the undertaking will have no effect on archeological resources because the Army will continue without change land management activities and staffing. SFAAP is responsible for the management of the archeological cultural resources as directed by Federal law and regulations. The area encompassed by the facility is protected by Federal law, and the CRMP provides a means of preserving and managing historic properties that may contribute to our understanding of prehistory and history.

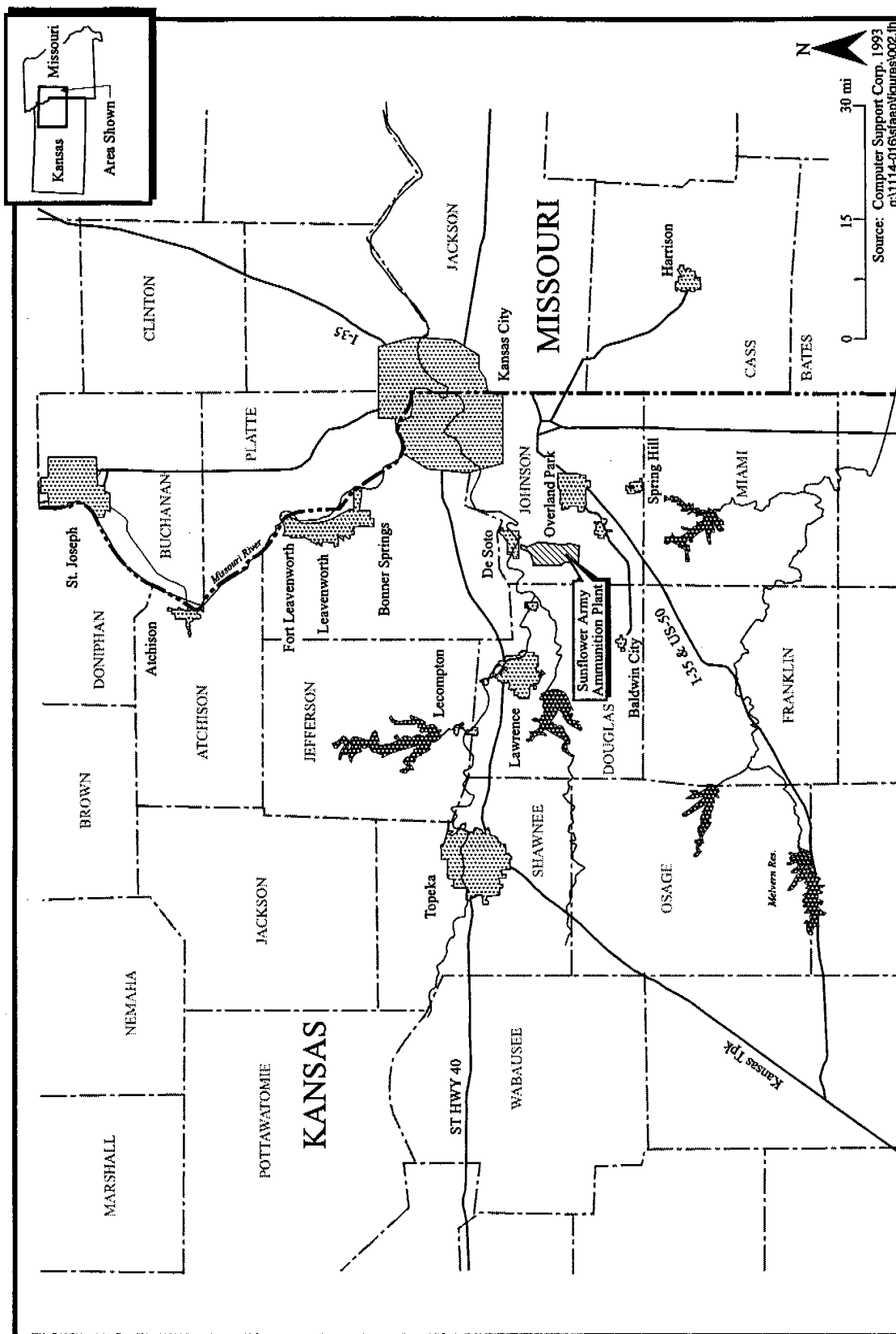


Figure I-1. Regional location of Sunflower Army Ammunition Plant, Johnson County, Kansas.

- Historic architectural resources, documenting the role of the facility in support of the war effort during World War II, exist within the boundaries of SFAAP. Impacts to these resources, however, have been mitigated through the implementation of the stipulations in the Inactivation PA, with the concurrence of the SHPO. The buildings and structures associated with the Cold War era, at the facility do not meet Criteria Consideration G for exceptional significance, and thus are not considered eligible for NRHP inclusion. Therefore, the World War II and the Cold War buildings and structures on the facility need no further consideration.
- The preinstallation Roberts' dwelling, Building FH-3, is, however, considered eligible for the NRHP.
- Significant prehistoric and historic period archeological sites—remains of the preinstallation settlement and development in the region—potentially exist within the facility.
- In compliance with the NHPA, SFAAP must manage both cultural resources considered eligible for the NRHP as well as those resources of unknown eligibility.

B. IOC Practices and Capabilities

The following statements reflect the specific practices and capabilities toward cultural resources management.

- In compliance with AR 420-40, the Installation Commander through the Director of Public Works (DPW) [Engineering and Housing] is responsible for carrying out the management of the historic preservation program at all levels. The Commander or DPW may delegate the authority by appointment of a Historic Preservation Coordinator (HPC) to serve as a point of contact for all projects that may impact historic properties, including deactivation projects, and to determine whether further Section 106 review is required.
- In accordance with the Inactivation PA, SFAAP will cease production and inactivate certain plant areas but will retain these facilities to meet future mobilization requirements, or will partially inactivate specific portions of facilities that are retained and maintained for mobilization requirements.
- The inactivation undertaking will not affect the eligible preinstallation Roberts house nor archeological cultural resources because the Army will not change land management activities nor staffing. Therefore, archeological resources and the Roberts house are to be protected and managed.
- In the event that lands are excessed or leased to a nonfederal agency, requirements for archeological survey, testing, evaluations, and treatment alternatives will be addressed through consultation with the Army and the SHPO prior to the release of those lands, pursuant to AR 420-40. Alternatively, transfer of lands to another Federal agency would include the transfer of all cultural resources responsibilities as part of the action. Similarly, lands transferred to a State agency are also recommended to be exempted from Section 106 review because the property will then be under the purview of the SHPO.
- The timing of the inventory process for identification, evaluation, and nomination of archeological historic properties (Table I-1) will be completed—pending available funds—based upon the projected owner and final disposition of the facility. However, the process must be completed prior to excessing the land and the transfer of resources to private ownership.
- The ACHP, SHPO, and the public will be afforded an opportunity to comment, appropriate to the subject matter and scope of the program, as stipulated by regulations guiding the installation policy.
- The installation should endeavor to instruct the pertinent personnel with regard to Federal laws concerning the protection of historic properties on Federal land. A voluntary educational program for employees actively involved with projects that could potentially impact historic properties should be designed to inform employees of the scientific value of such properties and the legal requirements for protecting them, of the harm done by insufficient maintenance or misdirected alterations, and of the harm to archeological sites caused by unauthorized collection of artifacts.

Table I-1
Management Components for Full Compliance* with NHPA, as amended through 1992

Phase 1	Phase 2	Phase 3
Archeological Survey Training of personnel	Archeological test excavations Training of personnel	NRHP nomination Review of historic properties Update of CRMP

* pending availability of funds

C. Goals

The first priority for the management of historic properties within SFAAP is the integration of the cultural resources management process with the day-to-day management of the facility.

- Potentially costly design changes or construction delays can be avoided if archeological resources are considered during the early planning stages of any project.
- The cultural resources data should be integrated into the data base that SFAAP managers use on a regular basis in order to make decisions and to design projects.
- Once integrated, cultural resources management can be accomplished within the normal planning process, and costly delays or redesign efforts may be avoided.

The second priority is related to any facility lands that may be leased or excessed into the control of a nonfederal entity. Prior to leasing or excessing, it will be necessary to complete the Section 111 requirements concerning land with known historic properties, and the Section 106 process for inventorying and evaluating lands controlled by the installation if the possibility of unknown archeological sites exists or if any disturbance to previously undisturbed land is anticipated. If, however, lands or historic properties are leased or excessed to another Federal agency or to the State, it is recommended that they be exempt from Section 106 review. Similarly, the lease or sale to a nongovernment entity of the eligible Roberts house will require SHPO concurrence.

- Those lands that are under consideration for excess to nonfederal parties will be a top priority for immediate survey.
- Historic properties that are leased or excessed to other Federal agencies will include the transfer of all NRHP responsibility as part of the action.
- Lands transferred to a State agency are recommended to be exempted from 106 review, as the property will then be under the purview of the SHPO.

The third priority at SFAAP should be a survey and inventory of archeological sites (both prehistoric and archivally identified historic) on the installation, as funding is available.

- The location and documentation of prehistoric and historic archival sites is of importance to the mission-related activities of the facility and is vital to the protection of sites that may be significant.
- Field documentation and recording of sites provides a baseline inventory of site locations and an initial evaluation at the survey level, which may determine sites that can be considered ineligible for inclusion in the NRHP.

- Those sites that can be determined ineligible from survey level data will need no further management considerations.
- Those sites that are considered to be of unknown eligibility can then be protected.

The fourth priority is an evaluation of the newly recorded archeological sites at SFAAP to determine NRHP eligibility, as funding is available. Full evaluation of each archeological site of unknown eligibility is essential for the determination of its NRHP eligibility. The process for the determination of eligibility includes the following procedures.

- Test excavations are often needed to aid in the determination of the time period (chronological placement) and physical type (camp, village, etc.) of an archeological site.
- Test excavation efforts (when necessary) should be focused first on archeological sites that may be directly or indirectly impacted by facility activities.

The fifth priority for management of the historic properties at SFAAP is the nomination of historic properties to the NRHP, and the preservation of areas of traditional religious and cultural importance to Native Americans as directed by the NHPA, as amended, and AR 420-40.

- Architectural resources:
 - * Buildings and structures at SFAAP will be adversely affected by the inactivation program Inactivation PA (see Appendix I). To mitigate these adverse effects, the Army has prepared a national thematic context for the affected installations under a separate contract. This report documents the social impacts of the plants on associated communities as well as detailing the construction and operational characteristics of its facilities, thus mitigating all impacts to each installation's military-related architectural resources. Therefore, the inventory, maintenance, and management of the SFAAP military architecture is not included in the CRMP. Alternatively, however, the eligible Roberts house is to be managed and maintained.
- Archeological resources:
 - * The eligibility status of archeological cultural resources should be determined prior to assessing the effects of government actions on those resources.
 - * The determination of NRHP eligibility is based upon criteria established in 36 CFR 60.4. The criteria for evaluation include an association with significant events or significant persons; the existence of distinctive characteristics of type; and/or possessing an information potential important to furthering the understanding of prehistory or history.
 - * Once a resource has been properly evaluated, guidelines presented within this document may be applied for the treatment of significant cultural resources.
 - * The evaluation of cultural resources as NRHP-eligible (i.e., historic properties) dictates certain treatment alternatives such as avoidance or mitigation of adverse effect.

The sixth priority is the in-house education of staff personnel concerning their responsibilities for the management of historic properties, as funding is available.

- Minimal instruction will be necessary to inform staff of the nature of archeological historic properties.
- This education program is important for those individuals whose activities may directly impact historic properties.
- An awareness of the historic properties, their location, and their significance will contribute greatly to reducing inadvertent destruction of historic properties.

The final priority is the public participation process at SFAAP.

- Consultation with federally recognized Native American tribal groups will require a determination of which tribe(s) represent interested parties and a consideration of their views. These groups will be participants in the Section 106 process and NAGPRA issues that might arise on the installation. Present data suggest that the Kaw (Kansa) may have been the dominant Late Prehistoric tribal group and are among the Native American descendants who should be contacted for issues related to the Native American Graves Protection and Repatriation Act of 1990. The Iowa, the Kickapoo, the Otoe, the Sac and Fox, and the Osage are some of many immigrant Native American groups who traversed this region. In the event that the tribal affiliation of human remains cannot be determined, consultation should be undertaken between the four Permanent Resident Tribes (Pottawatomie, Kickapoo, Ioway, Sac and Fox) and the Unmarked Burial Sites Preservation Board at the Kansas State Historical Society in order to determine the fate of these remains.
- Public participation in the Section 106 process is encouraged. The DA, along with the SHPO, should seek and consider the views of the public when taking steps to identify historic properties, evaluate effects, and develop alternatives. Members of the public with interests in an undertaking and its effects on historic properties should be given reasonable opportunity to comment in the Section 106 process.

D. Budget and Staff

The goal for full compliance with the NHPA, as amended through 1992, AR 420-40, and the Inactivation PA is a complete inventory and evaluation of all archeological cultural resources at SFAAP. This action will enable identification of any historic properties that may limit flexibility, affect the cost and planning of undertakings, or restrict the use or release of lands.

The survey and reconnaissance data that have been gathered to date, as well as data on the archivally identified sites, indicate that archeological sites are likely to occur throughout much of the installation. Sensitivity models for cultural resources, respective to both prehistoric and historic sites, have been developed. This model, as well as the methodology to accomplish the inventory and evaluation program within the context of the CRMP, are discussed in Section II of this document. Implementation of the program in whole or in part will be contingent upon the availability of funds. The following considerations and elements comprise the basis of the program:

- At the present time, it is estimated that approximately 3,903 acres of the 9,542-acre installation have been either disturbed or previously investigated.
- Remaining to be surveyed are approximately 5,639 acres.
- Currently, seven archeological sites—all of unknown eligibility—have been recorded at SFAAP:
 - * six prehistoric sites and
 - * one historic site (it should be noted that the grounds surrounding eligible preinstallation Building No. FH-3—the Roberts house—have not been investigated archeologically; therefore, site determination for the area/house has not yet been made and it is not yet a recorded site).
- Based on the archival research, the additional survey work likely will yield more sites, some of which possibly will require test excavation for purposes of evaluation.
- The exact number of NRHP-eligible sites is unknown at this time; however, formal nomination forms for those sites determined eligible for the NRHP will need to be completed.

Monitoring particular projects and the evaluation of site status should be the responsibility of the HPC. In the event that the HPC can fulfill only part of these responsibilities, it may be possible that some of these functions can be carried out by other appropriate staff members in conjunction with their regular responsibilities. With a minimum of instruction, such personnel can be provided with a basic understanding of historic properties and associated preservation requirements. It is recommended that:

- the land manager or project supervisor may be assigned to fulfill the monitor role;
- for subcontracted construction projects, the individual serving as project engineer for the subcontractor may coordinate with the HPC to provide adequate monitoring of the project-related activities.

E. Legal Responsibilities

Meeting the following needs is critical to the success of the SFAAP CRMP.

- The primary need is to successfully integrate cultural resources management requirements with the planning and conducting of undertakings in order that cultural resources management compliance can be accomplished.
- Installation staff members need to become familiar with evaluating the potential of undertakings to damage known or unknown historic properties and in using guidelines for the protection or treatment of historic properties set forth in this plan.
- Consultation between SFAAP, the SHPO, and the ACHP on the priorities for field, analytical, and documentation projects will occur only as survey requirements arise. These priorities are designed to develop the cultural resources inventory, evaluate all of the cultural resources, and manage those determined to be historic properties. Pursuant to Section 110(a)(2)(D-E) of the NHPA, the State and other Federal agencies, among others, are to be regularly consulted during the implementation of a management plan. Formalization of the consultation process with the State SHPO and the ACHP in the format of a PA or Memorandum of Agreement (MOA) will provide greater flexibility to the installation rather than less.
- AR 420-40 calls for the Directorate of Public Works to review the CRMP (Historic Preservation Plan) at least once every four years or as required in consultation with the SHPO. In AR 420-40, Part 2-9, the Army is directed to make all scopes of work, written materials, plans or other products available to the SHPO and ACHP for review, as requested, if there are adverse effects on eligible properties.

As defined by Federal laws and associated regulations, the facility is responsible for the identification, evaluation, and protection of all historic properties on lands under its control or use. These responsibilities, some of which are specified in AR 420-40, may include but are not limited to the following:

- implementing the provisions of the National Historic Preservation Act, as amended through 1992;
- implementing the provisions of the National Environmental Policy Act of 1969, as amended;
- implementing the requirements of the Archeological Resources Protection Act of 1979, as amended;
- compliance with the American Indian Religious Freedom Act of 1978 and the Native American Graves Protection and Repatriation Act of 1990;
- implementing the guidelines established for professional standards for cultural resources management personnel and projects, and for the management and curation of federally owned and administered archeological collections;
- managing the historic preservation requirements through a CRMP; and
- conducting a cultural resources management program in a timely and cost-effective manner.

As stated previously, SFAAP must also comply with the provisions of the Inactivation PA. Under stipulations set forth in the PA, the Army will cease production at the facility, which will result in a change in maintenance on some or all installation buildings, while retaining the underlying lands. The affected area encompasses the entire area within the installation boundaries. Impacts to the architectural resources on the facility—with the exception of the NRHP-eligible Roberts house, which is to be preserved and protected—have been mitigated according to the conditions of the Inactivation PA through concurrence by

the Kansas SHPO, and no further consideration is necessary. Because the Army will retain the underlying lands, the undertaking will have no effect on archeological cultural resources, and SFAAP will be responsible for the protection and management of archeological resources. The Inactivation PA provides a list of activities (see Appendix I, Attachment 3 of the PA) that do not need review by the SHPO.

A large body of Federal legislation, regulations, and executive directives exists that outlines the responsibilities of Federal agencies for cultural resources preservation and provides procedural guidelines for the management of federally owned or controlled properties. Those laws and regulations particularly relevant to SFAAP managers are discussed here; other relevant legislation, regulations, and directives are presented in Table I-2.

The NHPA, as amended through 1992, has become the cornerstone of Federal cultural resources management law. It established a national historic preservation program that includes elements for identification, evaluation, and protection. The NHPA presents a policy of supporting and encouraging the conservation of historic properties by directing Federal agencies to assume responsibility for those cultural resources judged to be significant.

NHPA policies are implemented through the following means:

- the Secretary of the Interior (Secretary) was authorized to expand and maintain a National Register of Historic Places, and procedures for nomination to the Register were established;
- the Secretary was directed to approve State preservation programs that may be directed by a SHPO and a historic preservation review board;
- a National Historic Preservation Fund was established;
- a grant program was authorized to provide funds to the states for historic preservation projects and to individuals for the preservation of NRHP properties;
- the ACHP was established as an independent Federal agency that advises the President, Congress, and other Federal agencies on historic preservation matters;
- the Section 106 review process which ensures that cultural resources are properly considered in the planning stage of any Federal agency activity was established;
- the key directive of Executive Order 11593 to inventory and evaluate cultural resources on federally owned or controlled lands was further defined and incorporated as Section 110; and
- AR 420-40 established management responsibilities and standards for the treatment of historic properties, as well as describing the steps for locating, identifying, evaluating, and treating historic properties, in compliance with the NRHP, as amended, on land controlled or used by the Army.

Of the above directives, the Section 106, 110, and 111 directives and their associated procedures are the most important responsibilities delegated to the installation. Section 106 [16 U.S.C. § 470f], as amended, provides the following directive.

The head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register. The head of any such Federal agency shall afford the Advisory Council on Historic Preservation established under Title II of this Act a reasonable opportunity to comment on any such undertaking.

Table I-2
Federal Laws, Regulations, Orders, and Procedures

Number	Name
Public Law 59-209 34 Stat. 225 16 U.S.C. 431 et seq.	Antiquities Act of 1906
Public Law 74-292 49 Stat. 666 16 U.S.C. 461 et seq.	Historic Sites Act of 1935
Public Law 86-523 16 U.S.C. 469- 469c 74 Stat. 220	Reservoir Salvage Act of 1960
Public Law 89-665 80 Stat. 915 16 U.S.C. 470 and Public Laws 91-243, 93-54, 94-422, 96-199, 96-244, 96-515, 98-483, 99-514, 100-127, and 102-575	National Historic Preservation Act of 1966 (NHPA) as amended through 1992
Public Law 91-190 83 Stat. 852 42 U.S.C. 4221 et seq.	National Environmental Policy Act of 1969 (NEPA)
Public Law 93-291 88 Stat. 174 16 U.S.C. 469 et seq.	Archeological and Historical Preservation Act of 1974
Public Law 94-201	American Folklife Preservation Act
Public Law 94-422 16 U.S.C. 460 et seq.	Land and Water Conservation Act of 1976
Public Law 95-341 92 Stat. 469 42 U.S.C. 1966	American Indian Religious Freedom Act (AIRFA) of 1978
Public Law 96-95 93 Stat. 721 16 U.S.C. 470	Archeological Resources Protection Act of 1979 (ARPA)
Public Law 101-601 104 Stat. 3048 25 U.S.C. 3001 et seq.	Native American Graves Protection and Repatriation Act of 1990 (NAGPRA)
Executive Order 11593	Protection and Enhancement of Cultural Environment, May 13, 1971
48 FR 44716-44740 (Sept. 29, 1983)	Archeology and Historic Preservation; Secretary of the Interior's Standards and Guidelines
44716-44720	The Secretary of the Interior's Standards for Preservation Planning
44720-44723	The Secretary of the Interior's Standards for Identification
44723-44726	The Secretary of the Interior's Standards for Evaluation
44726-44728	The Secretary of the Interior's Standards and Guidelines for Registration
44728-44730	The Secretary of the Interior's Standards for Historic Documentation
44730-44734	The Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation
44734-44737	The Secretary of the Interior's Standards and Guidelines for Archeological Documentation

Table I-2 (cont'd)

Number	Name
44737-44740	The Secretary of the Interior's Standards and Guidelines for Historic Preservation Projects, including the Professional Qualification Standards
53 FR 4727-46	Guidelines for Federal Agency Responsibilities under Section 110 of the National Historic Preservation Act
5 CFR 333	Intergovernmental Personnel Act of 1970
32 CFR 229	Protection of Archaeological Resources: Uniform Regulations
33 CFR 325	Processing of Department of the Army Permits: Procedures for the Protection of Historic Properties
36 CFR 60	National Register of Historic Places
36 CFR 61	Procedures for Approved State and Local Government Historic Preservation Programs: Appendix A—Professional Qualifications
36 CFR 63	Determinations of Eligibility
36 CFR 65	National Historic Landmarks
36 CFR 67	The Secretary of the Interior's Standards for Rehabilitation
36 CFR 68	The Secretary of the Interior's Standards for Historic Preservation Projects
36 CFR 78	Waiver of Federal Agency Responsibilities, under Section 110 of the National Historic Preservation Act
36 CFR 79	Curation of Federally Owned Archeological Resources
36 CFR 800 44 FR 21 (Oct. 1986)	Protection of Historic and Cultural Properties
43 CFR 7	ARPA Supplementary Regulations
43 CFR 10	NAGPRA Regulations; Final Rule
ARPA 1988 Amendments: 51 FR 31115 (Sept. 2, 1986)	Protection of Historic Properties
52 FR 1965	Archaeological Resources Protection Act, Supplemental Regulation

Several terms associated with the historic preservation legislation are presented in Appendix B for reference. A complete list of abbreviations used in this document is presented in Appendix A. Selected terms are defined below.

The regulations define the *area of potential effects* (APE) as "the geographic area or areas within which an undertaking may cause changes in the character or use of historic properties, if any such properties exist" [36 CFR Part 800.2(c)]. The determination is based not on knowledge of specific properties, but on what effects might be created if historic properties do exist in the APE of the undertaking. The agency must consider the full range of possible impacts, both those that will be direct results of the project and those that could be indirect consequences. The APE is defined before identification actually begins, so it may not be known whether any historic properties actually exist within it.

The word *effect* is broadly defined. Effects can be direct or indirect, positive or negative, and cover any foreseeable change when "the undertaking may alter characteristics of the property for inclusion in the NRHP. For the purpose of determining effect, alterations to features of the property's location,

setting, or use may be relevant depending on a property's significant characteristics and should be considered" [36 CFR Part 800.9(a)].

The reference to an *undertaking* within these regulations means "any project, activity, or program that can result in changes in the character or use of historic properties, if any such historic properties are located in the APE. The project, activity, or program must be under the direct or indirect jurisdiction of a Federal agency or licensed or assisted by a Federal agency. Undertakings include new and continuing projects, activities, or programs and any of their elements not previously considered under Section 106" [36 CFR Part 800.2(o)]. Examples of an undertaking include:

- management and use of lands;
- management of timber, grazing areas, minerals, and other natural resources;
- troop field training;
- construction, rehabilitation, and maintenance of buildings;
- installation and modification of facilities;
- abandonment or demolition of facilities;
- real property acquisition and disposal;
- munitions testing;
- remediation of toxic and hazardous waste conditions; and
- recreation.

The term *historic property* refers to "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register" [36 CFR Part 800.2(e)].

The term *National Register* means the National Register of Historic Places as established under 16 U.S.C. § 470a and is the basic inventory of national historic properties—including buildings, structures, objects, sites, districts, and archeological resources—maintained by the Secretary of the Interior.

The term *eligible for inclusion in the National Register* includes both properties formally determined as such by the Secretary of the Interior and all other properties that meet the NRHP criteria as defined by 36 CFR Part 60.4.

Reference to the *Advisory Council* means the Advisory Council on Historic Preservation established under 16 U.S.C. § 470i which functions to advise the President and the Congress on historic preservation matters, to review the policies and programs of Federal agencies, and to inform and educate Federal agencies on matters relating to historic preservation [16 U.S.C. § 470j].

The public may request ACHP review of an agency's findings at several points within the Section 106 review process. The NHPA also allows particular interested parties to comment under specific circumstances. Interested parties may include local government representatives; applicants for Federal assistance, permits, and licenses; Indian tribes; and the public. The regulations require that the public be informed concerning the consultation process and that their views be elicited. The agency official should use existing agency public involvement procedures to provide this opportunity.

Although the Section 106 review process was not defined in the original Act, the ACHP has produced regulations, *Protection of Historic Properties* [36 CFR Part 800], in order to effectively implement this critical process. This implementation process provides SFAAP managers with procedures to follow for compliance with the NHPA. Since 36 CFR Part 800 is critical to the compliance process, Appendix D provides the source from which the entire regulation can be obtained.

Section 110 [16 U.S.C. § 470h-2] outlines the responsibilities of a Federal agency in relation to the use and protection of historic properties.

- The Federal agency must assume responsibility for the preservation of historic properties that are owned or controlled by the agency.
- The Federal agency also shall use, to the maximum extent possible, historic structures that are available. Any preservation, consistent with the historic property and the agency mission, shall be conducted as necessary in order to comply with this directive.

Section 110, as presented, reinforces the responsibilities of the Federal agency to inventory, evaluate, and preserve historic properties. As such, a variety of responsibilities are included within Section 110.

- It is the responsibility of the agency to establish a program to locate, inventory, and nominate to the Secretary all cultural resources that appear to qualify for inclusion in the NRHP. Each agency will ensure that no potentially NRHP-eligible historic property is inadvertently transferred, sold, demolished, substantially altered, or allowed to deteriorate significantly.
- If Federal actions will substantially alter or destroy a NRHP-eligible property, sufficient time and effort will be expended to properly record the property.
- Planning and actions necessary to minimize harm to all National Landmark sites will also be undertaken when a project may adversely affect such sites.
- Each Federal agency shall designate a qualified official as its "preservation officer" who shall be responsible for coordinating that agency's activities under the NHPA.
- The Secretary shall establish an annual preservation awards program in which monetary awards not to exceed \$1,000, and citations may be awarded to Federal, State, and certified local governments for outstanding contributions to the preservation of historic properties.

Of critical importance to the fulfillment of these responsibilities is the additional directive that the Federal agency may include the costs of preservation activities under this Act as eligible project costs. Reasonable project costs may be charged to Federal licensees and permittees as a condition of the issuance of such licenses or permits.

Section 111 [16 U.S.C. § 470h-3] complements the directives of Section 110 by addressing the responsibilities of a Federal agency concerning the lease, exchange, or management of Federal historic properties.

- After consultation with the ACHP, any Federal agency may lease a historic property owned by the agency to any person or organization, or exchange such property with a comparable historic property, if the agency head determines that the lease or exchange will ensure the preservation of the property.
- The head of any Federal agency having management responsibility of any historic property may, after consultation with the ACHP, enter into contracts for the management of such property. Any such contract will contain terms and conditions necessary to protect the interests of the United States and ensure adequate preservation of the historic property.

AR 420-40 establishes that each Federal agency is responsible for the protection of historic properties and shall ensure that:

- undertakings regarding historic properties shall conform to professional standards under regulations developed by the Secretary in consultation with the ACHP, other affected agencies, and the appropriate professional societies of the disciplines involved, specifically archeology, architecture, conservation, history, landscape architecture, and planning;
- personnel undertaking preservation projects shall meet qualification standards established by the Secretary and the appropriate professional societies of the disciplines involved, specifically archeology, architecture, conservation, history, landscape architecture, and planning.

- records and other data be permanently maintained in appropriate data bases and made available to potential users.

In conjunction with guidelines for the fulfillment of these responsibilities that have been developed by the National Park Service (NPS) and the ACHP under 53 FR 4727 (see Table I-2) and in recognition of these responsibilities, the DA has also developed its own guidelines for installations such as SFAAP. AR 420-40 (which is soon to be superseded by new regulations AR 200-4 which will then become the applicable legal regulation) prescribes management responsibilities and standards for the treatment of historic properties. It also presents a format and the proposed contents for the development of a CRMP in consultation with the ACHP and the appropriate SHPO. Form letters for consulting the ACHP and the SHPO are presented in Appendix C. Since AR 420-40 is critical to the compliance process, Appendix D provides the source from which the entire regulation can be obtained.

The provisions of the *National Environmental Policy Act* (NEPA) of 1969 [P.L. 91-190; 83 Stat. 852; 42 U.S.C. § 4321-4347, et seq.] charge Federal agencies with the responsibility of reviewing all of their present and future programs to determine their total environmental impact and to prepare statements which set forth those impacts. Included in this responsibility is the mandate to "preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice" [42 U.S.C. § 4321-4347b(4)]. Statements about the impacts are to be made available for comment to the appropriate Federal, State, and local agencies, which are authorized to develop and enforce environmental standards. These statements and comments shall be made available to the President, the Council on Environmental Quality, and to the public as provided in Section 552 of Title 5. The Section 106 requirements of NHPA are not satisfied by complying with the requirements of NEPA. It is useful to coordinate the requirements of NEPA and NHPA. Additionally, impact reviews under NEPA should consider the mandates required by the AIRFA regarding traditional use properties.

The *Archeological Resources Protection Act* (ARPA) of 1979 [P.L. 96-95; 93 Stat. 721; 16 U.S.C. § 470aa-470ll] was designed to protect archeological cultural resources on public or Indian lands and increase communication and exchange of information among governmental authorities, professional archeologists, and private individuals. This Act defines prohibited activities (e.g., excavation, removal, damage, alteration or defacement of archeological resources) on public and Indian lands and the associated criminal penalties that are enforced by this law. This Act requires a permit for any excavation or removal of archeological resources from public or Indian lands which is not sponsored by the Federal agency [16 U.S.C. § 470cc(a)]. Such excavations must be of a scientific nature and conducted by qualified applicants. Individuals should comply with the Secretary's *Standards of Professional Qualifications*. All archeological resources removed from the public lands under the permit remain the property of the Federal government. The permit granting authority usually belongs to the land manager responsible for the property. Permits for Army installations are granted by the U.S. Army Corps of Engineers District Real Estate Division [AR 405-80]. However, acquiring a permit under the ARPA regulations does not constitute compliance with Section 106 of the NHPA. Permits are not required for work contracted by the facility.

Federal agencies also are mandated by law with respect to two principal areas of Native American rights beyond the legislation cited above. SFAAP may not have a need to comply with these regulations. The facility does not interfere with Native American religious practices that have cultural patrimony in the area. However, an awareness of Native American religious rights is mandated. Compliance with policy established by the *American Indian Religious Freedom Act* (AIRFA) of 1978 [P.L. 95-341; 92 Stat. 469; 42 U.S.C. § 1996] and the requirements of the *Native American Graves Protection and Repatriation Act* (NAGPRA) of 1990 [P.L. 101-601; 104 Stat. 3048; 25 U.S.C. § 3001-3013] are required by Federal land managers of public and Indian lands. A 1980 amendment to the NHPA recommends ways to "preserve, conserve, and encourage the continuation of the diverse traditional prehistoric, historic, ethnic, and folk traditions that underlie and are an expression of our American heritage," and are directly applicable in the

management of culturally significant traditional areas. This section of the NHPA can be used to address "preservation and conservation (of) the intangible elements of a cultural heritage such as arts, skills, folklife, and folkways" when associated with a tangible property.

The AIRFA sets forth a resolution that Federal agencies shall evaluate their policies and procedures in consultation with traditional religious leaders in order to protect and preserve Native American religious cultural rights and practices. The resolution states that it is the policy of the United States to "protect and preserve for American Indians their inherent right of freedom to exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites." The provisions of AIRFA guarantee access to traditional sites and, in the case of traditional cultural properties with real property historically tied to the traditional practice, can place the associated property on the NRHP. The provisions of the AIRFA legislation are to be considered whenever a Federal land manager considers any permit under the ARPA regulation. Additionally, consultation under AIRFA with Native American groups can simultaneously satisfy the requirements of NEPA as well.

The purpose of NAGPRA is to set forth the rights of Indian tribal groups and Native Hawaiian organizations with respect to human remains, funerary objects, sacred objects, and objects of cultural patrimony with which they can demonstrate lineal descent or cultural affiliation. NAGPRA requires that Federal agencies and museums receiving Federal funds inventory holdings for such remains and objects, and work with the tribal groups in a consultation process to reach agreements on the repatriation or other disposition of the remains and objects. The Act also protects Native American burial sites and controls the removal of human remains, funerary objects, sacred objects, and objects of cultural patrimony on Federal, Indian, or Native Hawaiian lands during planned or unanticipated excavations, either data recovery or testing. The stricter requirements of NAGPRA—which is not a part of the Section 106 process—should be implemented in addition to those stated in the Section 106 requirements when an undertaking has the possibility of impacting Native American cultural resources; however, both are overlapping at times and need coordinating efforts. Unlike the Section 106 process, NAGPRA gives individuals and certain Native American groups considerable decision-making authority in the excavation, removal, and repatriation of Native American cultural items and burials. NAGPRA regulations in 43 CFR 10 [Sections 10.4-10.6] provide guidelines for procedures to follow upon unexpected discovery of human remains. Excavation of Native American cultural items should be carried out as appropriate to the NAGPRA legislation and in consultation with the proper Native American tribal groups.

Several key coordinating guidelines have been issued by the Secretary and the ACHP which prescribe standards recommended to manage historic preservation programs. A significant discussion is found in the Secretary's *Standards and Guidelines for Archeology and Historic Preservation* issued in the *Federal Register* of September 29, 1983 [48 FR 44716-44740]. This set of guidelines discusses preservation planning, identification, evaluation, registration, documentation, and professional qualifications. The NPS established definitions, standards, procedures, and guidelines to be followed by Federal agencies in the preservation and maintenance of collections of prehistoric and historic material remains and records in their care that are recovered from Federal or federally assisted programs [36 CFR Part 79]. The NPS has issued guidelines [36 CFR Part 63] which describe identification and evaluation procedures for Federal agencies with which to request determinations of eligibility. The ACHP regulation [36 CFR Part 800] describes the process that the Federal agency uses to meet its responsibility for compliance with Section 106 requirements of the NHPA. This regulation is a critical portion of the consultation process.

It should be mentioned that in the event of a national emergency declared by the Office of the President, or a natural disaster as declared by a State governor, the treatment requirements for cultural resources are partially waived under 50 FR 7622, *Treatment of Historic Properties Under Emergency Conditions*, and 36 CFR Part 78, *Waiver of Federal Agency Responsibility*, under Section 110 of the NHPA. The waiver of provisions is solely in event of natural disaster or imminent threat to national security. The Secretary is to

promulgate regulations regarding such procedures under Section 106 Special Provisions for Emergency Undertakings.

F. Interested Parties and the Public Participation Program in Historic Preservation

The success of historic preservation planning is partly dependent upon the integration of the views of various groups. Sections 106 and 110 of the NHPA and the Secretary's *Standards and Guidelines for Archeology and Historic Preservation* [48 FR 44716] provide special attention to the participation of interested persons in historic preservation planning. Interested persons such as local governments, Federal applicants, Indian tribes, and the public may be invited to comment by the SHPO, the ACHP, and the agency official. Other interested persons, e.g., academic institutions, local preservation societies, historical or archeological commissions, and others who promote historic preservation, and the public should also be given the opportunity to comment in the review process. The public participation process used by NEPA may be employed. The ACHP booklet on public participation in the Section 106 process is recommended.

G. Prehistory and History of SFAAP

The following sections provide a brief discussion of the local prehistory and history. More in-depth discussions of the geology and environment of the SFAAP vicinity as well as overviews of the prehistoric and the preinstallation historic periods are provided in Appendices E, F, and G, respectively.

1. Prehistoric Cultural Chronology

Relevant prehistoric archeological summaries of northeastern Kansas are presented in Brown (1987), Brown and Brown (1986, 1987), and Brown and Simmons (1984). A more complete discussion is presented in Appendix F. The summary provided below is derived from a number of studies conducted during the construction of many of the area's reservoirs. Many of the cultural complexes have been recognized in association with particular watersheds. Figure I-3 illustrates the regional proximity of SFAAP to the major watersheds of northeastern Kansas for locational reference. The prehistoric chronological framework of northeastern Kansas consists of the Paleo-Indian, Archaic, and Ceramic Prehistoric periods (Table I-3).

Paleo-Indian sites and artifacts are the first cultural expressions that are archeologically recognized in North America and northeastern Kansas. The issues of Paleo-Indian sites and lifeways were, in part, complicated by geological phenomena. Because the Paleo-Indian period was coterminous with the Pleistocene/Holocene transition, the biota, landscape, and the continent itself were markedly different than they are today. One of the hallmarks of the Paleo-Indian tool kit was a consistent preference for high-quality stone used in the production of stone tools. This consistent selection of the highest quality materials throughout the Paleo-Indian period is accompanied by a degree of craftsmanship that is almost unmatched by later New World traditions (Bryan 1965; Callahan 1979; Frison 1976, 1991; Gramly 1992, 1993; Gruhn and Bryan 1977; Knudson 1973; MacDonald 1968; Mehringer 1988; Ritchie 1957; Wormington 1957). In northeastern Kansas as in other regions, evidence of Paleo-Indian occupation is usually limited to isolated fluted projectile points found on the surface of gravel bars and of terraces of creek beds and river channels (Brown and Logan 1987; Logan 1987b:35; Rogers and Martin 1982, 1983; Schmits 1980; Witty 1964). The occurrence of these items in stream channels suggests that many of the artifacts originated in deeply buried deposits scoured by seasonal flooding and erosion. For example, at the Coffey site along the Big Blue River (see Figure I-3), Schmits (1980:84) concluded that the late Paleo-Indian and Early Archaic materials recovered from the T-1 terrace indicated a stable surface throughout the Holocene. The presence of mammoth, camel, and bison remains in the alluvium of the Kansas River basin suggests the presence of a spruce-montane

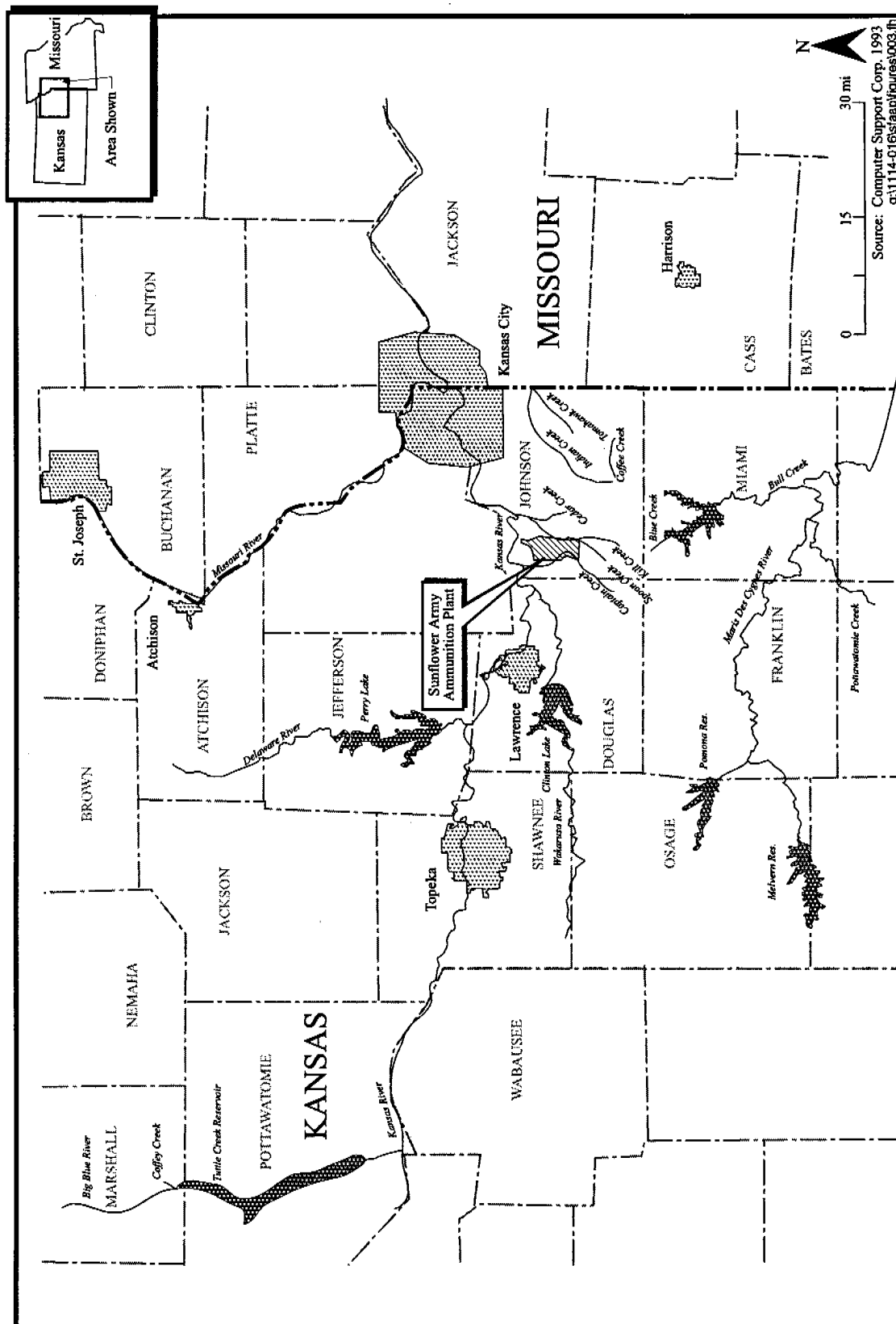


Figure I-3. Regional proximity of Sunflower Army Ammunition Plant to major watersheds.

Table I-3
Prehistoric Cultural Chronology for Northeastern Kansas
(after Brown 1987)

Cultural Stages	Approximate Dates
Paleo-Indian	
Llano Complex	10,000 B.C. - 9000 B.C.
Folsom Complex	9000 B.C. - 8000 B.C.
Plano Complex	8000 B.C. - 6000 B.C.
Archaic	
Early Plains	6000 B.C. - 5000 B.C.?
Middle Plains	5000 B.C. - 2500 B.C.?
Late Plains	2500 B.C. - A.D. 1?
Ceramic	
Early Ceramic	A.D. 1 - A.D. 1000
Middle Ceramic	A.D. 1000 - 1500
Late Ceramic/Protohistoric	A.D. 1500 - 1800

conifer parkland in or near the region about the time that Paleo-Indians were present (Brown and Simmons 1984; Logan 1987b:11; Martin et al. 1979).

Like the Paleo-Indian remains, Archaic manifestations in northeastern Kansas are very limited. P.R. Katz (1971, 1973) reported deeply buried deposits from the Sutter site along Muddy Creek in Jackson County. Found beneath 30 feet of alluvium, the recovered assemblage included lanceolate and square-stemmed projectile points and other implements reminiscent of the Fredrick and McKean complexes of the High Plains (Katz 1971). The Archaic deposits at the Sutter site were radiocarbon dated between 6000 B.C. and 5500 B.C. (Katz 1973). Contemporaneous cultural deposits were recovered over 7 m below the surface on the T-1 terrace fill of the East Fork of the Little Blue River near Kansas City (Kopsick 1982; Schmits and Bailey 1986). Other Archaic deposits from eastern Kansas include side-notched points, knives, choppers, and grinding stones in association with deer, bison, small mammals, walnuts, and chenopods characterizing the Chelsea phase (2700 B.C.-2000 B.C.) at the El Dorado Reservoir (Grosser 1977; Leaf 1979).

Though not clearly identified in Johnson County, the Nebo Hill phase (2000 B.C.-1000 B.C.) may be the most common Archaic phase represented in northeastern Kansas and northwestern Missouri. The Nebo Hill phase was first recognized by Shippee (1948) and has since been more formally discussed by Reid (1980, 1983) and others. Reid (1983:23) proposed that the Nebo Hill settlement pattern included large upland (late summer/fall) habitation sites, smaller tributary terrace (late fall/winter) camps, chert quarry sites, biface caches, and mortuary sites. Nebo Hill subsistence was based on hunting and gathering and may have been supplemented with early cultigens as indicated by three-quarter-groove axe tree-felling tools, hoe bits or "Sedalia Diggers," and site locational regularities (Reid 1983:34). Nebo Hill components may also contain some of the first fiber-tempered ceramic items produced in northeastern Kansas.

In *Archeology in Kansas*, O'Brien (1984:45) indicated that two basic lifeways are represented in Kansas during the Early Ceramic period which corresponded roughly with the first millennium after Christ. The Kansas City Hopewell Variant (A.D. 1-750) is well represented in the eastern third of the State, and the Plains Woodland is represented to the west. The Kansas City Hopewell Variant appeared to center around the confluence of the Kansas and Missouri rivers and may be directly related to the migration of Illinois

Hopewellian peoples to the Missouri and Kansas River valleys. The settlement pattern consisted of large permanent villages located at stream confluences and related small hunting, gathering, and processing camps along the secondary drainages. No dwellings have been examined for the period in northeastern Kansas, thus the architectural styles and village configurations are unknown. Subsistence was based on hunting, gathering, fishing, and some cultivation of maize, marsh elder, and squash. Villages included dwellings; large, often trash-filled storage pits; and concentrated midden deposits indicative of permanent settlement. Mortuary/ceremonial mounds were typically situated on prominent bluff tops and contained large square or rectangular stone vaults measuring 16 to 26 m in diameter (Brown and Simmons 1984).

The Plains Woodland period (A.D. 400-900) represents several discrete, localized phases throughout Kansas (O'Brien 1984:50). Examples from northeastern Kansas include the Grasshopper Falls phase in the Delaware River vicinity, the Hertha phase along Hillsdale Lake and Bull Creek, and the Wakarusa and Deer Creek phases along the Wakarusa River and Clinton Lake (see Figure I-3). Where the Kansas City Hopewell Variant probably represents immigrant populations to the area, the Plains Woodland phases are generally considered to represent cultural expressions of indigenous populations.

In contrast to the Hopewellian patterns, Adair (1988:35) and others have suggested the Grasshopper Falls, Hertha, Greenwood, Butler, and Keith components reflect a semisedentary lifestyle with large (multiple family) villages and at least part-time residence in small, isolated, nuclear family-size houses. Grasshopper Falls dwellings were oval, grass-and-daub structures ranging in size from 115 to 853 square feet (Reynolds 1981:85). Settlements included from two to 12 structures per site (Adair 1988:32). Features include storage pits that occur within and near dwellings and occasional hearths in open yard areas. Grasshopper Falls (and other Plains Woodland) components do not contain pronounced midden deposits resulting from permanent, long-term, or repeated settlement. Likewise, the Grasshopper Falls subsistence base appears to have been more dependent on hunting and gathering than cultivation. The Grasshopper Falls phase represents the most common prehistoric component found at the Grove Reservoir in Shawnee and Jackson counties (Reynolds 1987:184) and at Perry Lake in Jefferson County (Witty 1983:215).

The Hertha phase (A.D. 365-760) has been recognized from investigations of Bull Creek and Hillsdale Lake in Johnson and Miami counties (Blakeslee and Rohn 1986; Brown and Simmons 1984). Based on a hunting-and-gathering economy, the Hertha settlements appear to be smaller and more ephemeral than the sites of the Kansas City Hopewell Variant, Cuesta phase settlements (southeastern Kansas), or Greenwood phase (central Flint Hills/western Osage Cuestas region) (Blakeslee and Rohn 1986:1272). Excavated Hertha winter structures are oval in plan with central rock-lined hearths. The near absence of horticultural-related elements also suggests winter use of the Hillsdale Lake area.

The Plains Village/Middle Ceramic period (A.D. 1000-1500) settlements show increasing dependence on cultigens and more permanent settlement than was supported by a hunting/gathering/fishing subsistence. Principal among the plants grown were corn, beans, squash, and sunflowers. Cultural complexes of northeastern Kansas during the period include the Steed-Kisker phase near Kansas City, the Nebraska phase in northeastern Kansas/eastern Nebraska/western Iowa, the Pomona Variant of eastern Kansas, and others such as the Smoky Hill and the Upper Republican phases to the west and south of the present study area.

Steed-Kisker phase (A.D. 1000-1250) materials reflect "a productive agricultural economy in which corn, beans, squashes and domestic sunflower were raised" (O'Brien 1984:57). This subsistence base was supplemented with hunting and gathering. Adair (1988:93) mentions that the Steed-Kisker phase showed the exclusive production of Northern Flint corn. The Steed-Kisker settlement typically included farmsteads or hamlets comprised of one, two, or three rectangular, or subrectangular, shallow pit-house structures with or without an extended entryway (Brown and Simmons 1984:XIV-33). The hamlets appear to have typically been occupied by a single family. Interior cache pits and nearby storage features consisting of bell-shaped, subterranean granaries were located near the corn fields. Sedentism is expressed by trash-filled storage

facilities and some occasionally extensive cemeteries represented by mounds typically placed behind the farmstead or hamlet (Logan 1987a:15).

The Nebraska phase (A.D. 1050-1425), related to the Central Plains tradition, shares some traits with the Steed-Kisker phase with respect to settlement-subsistence pattern. Concentrated along the Missouri River and its tributaries within a portion of the glaciated region of northeastern Kansas, the Nebraska phase extended north along the Missouri River to eastern Nebraska, western Iowa, and northwestern Missouri (Brown and Simmons 1984:XIV-44). Settlements may range from one to 30 earthlodges.

The Pomona Variant or complex (A.D. 900-1430) of eastern Kansas is recognized as a "late survival of Plains Woodland manifestations with shared traits from contemporary Central Plain complexes" (Adair 1988:36, after Witty 1978). Settlements are represented by isolated dwellings or groups of two or three houses associated with low-lying terraces and sheltered floodplain settings along streams and rivers. Bluff top settings were also utilized. Structural construction elements include an oval plan with interior cache pits and light pole frames with wattle and daub. In contrast to the Central Plains tradition, there were no large agglomerated settlements resembling villages or earthlodge structures.

In northeastern Kansas, the Pomona Variant includes the Clinton, May Brook, and Apple Valley phases. The Clinton phase (A.D. 960-1430) is found in the Verdigris, Neosho, Marais des Cygnes, Wakarusa, and Little Blue (Missouri) valleys (Adair 1988:36). The Apple Valley phase (A.D. 1300-1350) is encountered along the Delaware, Verdigris, and Neosho watersheds (Adair 1988:37; see Figure I-3). The May Brook phase (A.D. 1100-1290) is identified along the Little Blue River in eastern Missouri, and the Wakarusa, Neosho, Marais des Cygnes, Bull Creek, and Verdigris watersheds (Brown 1984; see Figure I-3).

The Late Ceramic/Protohistoric period in northeastern Kansas was a period of some significant changes to the aboriginal lifeways. Among the changes were an unknown variety of migrations of aboriginal peoples and the development of larger and fewer villages complete with large circular earthlodges. From about A.D. 1200 to 1800, the Oneota tradition extended along the eastern edge of the Great Plains and throughout the Prairie Peninsula. The Oneota lifeways are distinguished from earlier settlements by a variety of important elements. Large villages consisted of as many as 150 lodges of two varieties. The classic earthlodge was circular, measuring about 30 feet in diameter, with a central hearth and an earthen covering supported by four central posts. The bark-covered dwellings were rectangular, measuring about 25 by 60 feet, with two or three hearths. Interior storage pits were bell-shaped and were common in both dwelling types. Subsistence included the cultivation of maize, beans, and squash and semi-annual bison hunts supplemented by hunting and gathering (Brown and Simmons 1984).

The Protohistoric period represents the phase of aboriginal life immediately prior to contact with Europeans (at which point the Historic period began with the writings of explorers, trappers, and military agents). Though Europeans had hardly ventured into northeastern Kansas before the seventeenth century, some of the influences of European emigration to the Americas were experienced prior to physical contact. Principal among these were infectious diseases, the migrations of Native American populations from other areas, and the introduction of the horse, followed shortly thereafter by participation in the fur trade and European commerce and the acquisition of firearms during the early historic frontier period.

Native American migrations and their causes were innumerable throughout the Protohistoric and early Historic periods in North America. For example, the Kansa, Osage, and Pawnee who occupied much of northeastern Kansas by the nineteenth century originated elsewhere. The Kansa may have moved up the Missouri River and entered the area by 1724 (O'Brien 1994:222). Kansa legends spoke of a western migration originating somewhere east of the Mississippi River (possibly the Lower Wabash Valley) sometime prior to 1673 (Unrau 1971:12-15). The Osage may have moved into the region from the lower Ohio River in 1775 (Wilson 1988:13). The Pawnee may have moved from the Red River region to Kansas after 1650 (Hyde 1974:12). The Shawnee who were moved to northeastern Kansas by the government

during the early 1800s, had spent over a century moving throughout the Mid-Atlantic and Piedmont regions (Kent 1989; Mayer-Oakes 1955; Wallace 1981).

Another influence of social and cultural change launched by European contact was the introduction of the horse. According to Beck and Haase (1989:9), the dispersion of the horse throughout the west took place from the time the Spanish first encountered the Navajo in 1659 near Santa Fe until 1770 when the Sioux obtained the animals along the Canadian border. The horse increased mobility in terms of distance and speed of travel, increased the amount and size of portable goods, and offered new methods of hunting bison.

2. Preinstallation Historic Period

The following section is a brief review of the preinstallation historic period of the SFAAP vicinity. County histories and other documents found particularly useful for the area history are presented in Andreas (1883), Arnold (1931), Baughman (1961), Blair (1915), Culp (1987), George Ogle and Company (1902, 1922), Gregg (1874), Hale (1854), Heisler and Smith (1874), Historic Preservation Department (1984, 1987), Litteer (1987), Miner and Unrau (1990), Phillips (1856), Rice (1975), Stuck (ca. 1854), and Whitman and Searl (1856). A more complete discussion of the area preinstallation history is presented in Appendix G.

The first European explorer in Kansas was Francisco Casques de Coronado in 1541. Failing to find the reported riches of Quivara, Coronado returned to Spain, and the Central Plains remained unexplored by Europeans for more than 200 years. By the late seventeenth century, the French began to explore the reaches of the Mississippi River and portions of the Missouri River, and opened the early fur trade with the Osage and other Indians. Based on their explorations of the Mississippi and Missouri rivers France claimed central North America. The first settlement in northeastern Kansas was a fortified trading post known as Fort Cavagnial (also Cavagnolle). The French erected the fort in 1744 near what would become Fort Leavenworth. After suffering heavy losses of troops at Santa Domingo in the West Indies, Napoleon abandoned ambitions for New World settlements and sold the French interests to the United States to raise money for wars at home. With the Louisiana Purchase of 1803, the new lands more than doubled the size of the United States.

As settlement continued throughout the eastern woodlands, the United States needed new lands to relocate more than 10,000 displaced Indians (Miner and Unrau 1990:6). In June 1825, the United States signed a treaty with the Kansa and the Osage and both tribes ceded all claims to lands west of Missouri. This treaty facilitated the removal of eastern tribes to the new territory and created what would soon become "Indian Kansas." In November of 1825, a treaty was signed at St. Louis with the Shawnee to cede their lands near Cape Girardeau, Missouri, in exchange for lands in what would become part of northern Kansas. The original Shawnee Reserve covered all of Johnson and Douglas counties (including the present SFAAP lands) and portions of several surrounding counties (Blair 1915:18). According to Gregg (1874:10), the first group of Shawnee to enter the area was the Fish band (numbering about 100), named after its leader. Fish eventually settled near Eudora (Gregg 1874; Stuck 1854) and erected a hotel about two miles west of the SFAAP (Whitman and Searl 1856). Miner and Unrau's (1990) *The End of Indian Kansas* discusses the demise of Indian Kansas and the exploitation of Indian peoples of the Kansas Territory. As the Indians were essentially wards of the government whose wealth was to be held in trust for their best interest, the trust system depended on the economics and ethics of its execution, and this in turn rested upon the perceptions and priorities of government officials and contractors who handled the trusts.

Immigration, commerce, and expansion, formative in the creation of the 1825 treaties, continued to encroach on the new Indian lands regardless of the promises of permanence. The Santa Fe Trail was created in 1825 and passed through the Shawnee Reserve and Johnson County (six miles south of the SFAAP). Shortly after the Santa Fe Trail was created, activity in the Pacific Northwest and California stimulated the need for an Oregon and California Road. Traveling about 2,000 miles from the mouth of

the Kansas River to Oregon City, the Oregon Trail separated from the Santa Fe Trail in Johnson County. The trail turned due north from the fork and proceeded into the present SFAAP facility, crossing Section 36 and a portion of Section 25 (T13S, R21E), before turning to the northwest and heading into Douglas County (see Figure I-3). Beck and Haase (1989:32) report that from its beginnings in 1834 until the completion of the transcontinental railroad in 1869, some 350,000 people used the trail en route to Oregon and California, and another 40,000 made their way to Utah. The U.S. Congress memorialized the Oregon Trail as a National Historic Trail in 1978.

By the 1850s many eastern woodland Indians who had been moved to the Indian lands had learned much of the white ways, values, and the emerging American political and court systems. In the interest of opening the area to white settlement while keeping their own land and becoming citizens of the United States, the Nebraska Territory was proposed and supported by Native Americans, various private citizens, and a few railroad promoters. However, because the subject of slavery between 1830 and 1860 was so hotly contested, the proposal of any new territory inevitably raised the issue of its slavery status. Ultimately, a new bill was proposed for not one but two territories, and the Kansas-Nebraska Bill was created in 1854. The two territories would be settled under "popular sovereignty." First proposed in 1847, the government tolerated slavery in the new territories until the final legal status was determined by the territorial settlers when they applied for statehood.

With the Kansas-Nebraska Act, known as the "Organic Law of the new territories" (Phillips 1856:20), Kansas became an arena in which to test two principal issues that remained to be resolved in the ever-growing United States, the issue of slavery and what to do about the Indians. The prospect of new settlement in 1854 brought new treaties with the Indians. Treaties were signed with the Otoe, Missouri, Kickapoo, Kaskaskia, Weasteorua, and Pinckashaw in March 1854 and with the Delaware, Shawnee, Sac, and Fox in May; all were occupants of Indian Kansas (Phillips 1856:23). The treaties generally ceded all land to the government except for a limited amount to the tribes. In the case of the Shawnee, the new reserve was reduced to 160,000 acres, and each Shawnee family had 90 days from the approval of the United States General Land Office (GLO) survey to select 200 acres for each member.

SFAAP is entirely within the 160,000-acre reserve of 1854. The land claims made by Shawnee families were filed at the Indian Land Agent's Office and were recorded on the Stuck Maps of the Shawnee Reservation (ca. 1854). The combined claims within SFAAP are indicated in Figure I-4. These claims concentrated on the timbered vicinity of Kill and Spoon creeks on the eastern portion of SFAAP and Captain Creek on the west edge of the facility. About the same time that the Shawnee families were selecting their claims, squatters were arriving and establishing their claims on a "bowie knife and revolver basis" (Phillips 1856:14). Since there was no established system in place to convert the lands, exchange fees, and maintain law and order, the discretions of individual Indian land agents, government land agents, politicians, railroad promoters, sheriffs, traders, attorneys, judges, Federal officials, businessmen, and others played heavily in early Kansas (Miner and Unrau 1990). Combined with the unresolved issue of slavery, the climate of late 1850s Kansas was tense, sometimes violent, and unpredictable. Many came to Kansas from the (then) "western states" of Iowa, Illinois, Indiana, Ohio, and Wisconsin without a particular agenda regarding the slave issue (Phillips 1856:64). Meanwhile, both the North and South made attempts to support the respective causes. The New England Aid Company vowed to send enough free-soiler squatters to gain control of the government. Likewise, since Kansas was adjacent to Missouri, Southern leaders expected to occupy it quickly, establish a government, and create a slave State.

The town site of Lexington (within the present SFAAP) was claimed by pro-slavery proponents in October 1855 (Indian Land Office Records). Lexington covered 320 acres within the northeast $\frac{1}{4}$ of Section 7 and the northwest $\frac{1}{4}$ of Section 8, Township 13 South, Range 22 East, near the main gate of SFAAP (see Figure I-4). However, Andreas (1883:640) points out that the first homestead was not built until March 1857. A two-story hotel was erected in 1858, burned in 1859, and rebuilt in 1860 (Andreas 1883:640). The hotel serviced a daily stage from Kansas City to Lawrence (Blair 1915:157) and served as the Indian supply office

on certain days of the week (Culp 1987). Lexington also included a post office (1857-1864), a general store, blacksmith shop, and a few houses (Culp 1987; Steed 1973). The town was eventually abandoned in 1864, and the parcel was purchased by Hugh Penner, a local farmer who maintained the hotel until his death in 1894. According to Culp (1987:14), the hotel stood until about 1919 when it was torn down. De Soto, located about one mile north of the SFAAP facility, was formed as an antislavery community when the county was otherwise dominated by pro-slavery forces. Laid out in 1857, De Soto soon boasted a saw/grist mill, a few homes, a Methodist church, a Presbyterian church, stores, a smithy, a wagon maker, and its own hotel (Andreas 1883:641). The De Soto post office was established in 1860 (Blair 1915:156).

Today, the incidents of violence that ensued within territorial Kansas might be overestimated as to their frequency, but the acts of cruelty and the climate of tension were very real (Arnold 1931; Gregg 1874; Litteer 1987; Phillips 1856). The "Wakarusa War" of 1855 was among the early events that occurred along with a skirmish at Easton. Federal troops were requested of the Secretary of War to reinforce the territorial legislature, and a few antislavery prisoners, many being prominent citizens, were taken. A few incidents of tarring and feathering also ensued. Guerilla warfare consisting of surprise attacks on roadsides was among the more common strategies conducted by armed bands of both sides who roamed the general countryside.

The sacking of Lawrence by pro-slavery forces in May 1856 took over 200 horses, pillaged many houses, and caused an estimated loss of \$150,000 of property (Phillips 1856:289-309). On the following day, a small force of free-soilers attacked a small pro-slavery settlement in what became known as the "Pottawatomie Massacre" (Arnold 1931:79). The "Battle of Black Jack," a skirmish along the headwaters of Captain's Creek, occurred near Baldwin City south of SFAAP. Other incidents of harassment, humiliation, and beatings of free-state advocates, including ecumenical members, were common. The violence also came to the Indian lands. Shawnee Agent William Gay was shot within sight of his agency headquarters. With timber rights, town site claims, and much of the prime land in Indian hands, Osage River Agent Maxwell McCaslin said that the Shawnee were under a "reign of terror" and requested that squatters be removed by the military (Miner and Unrau 1990:16). In 1858 several Shawnee were killed while trying to protect their timber. The intruding settler scoffed at the idea that the Indians could stop him since they could not produce maps of the tracts claimed by Shawnee members (as they had not been presented to the Shawnee). Shortly thereafter, a group of young Shawnee burned the houses of squatters in the vicinity of the earlier violence (Miner and Unrau 1990:51). As previously mentioned, many of the Indian claims had selected the timbered land; consequently, many of the prairie settlers were left without resources for fencing and fuel. The issue was ultimately decided in Johnson County by a bogus court trial that essentially ignored Indian ownership and allowed continued exploitation of the timbered lands by white squatters (Gregg 1874:17).

By 1859 it was widely accepted that Kansas would become a free State and the new constitution so written and approved by the citizenry. Kansas was formally accepted into the Union in late January 1861, about the same time that other states were seceding from the Union. When the Civil War began at Fort Sumter, Charleston, North Carolina on April 12 1861, Kansas had already been struggling for almost seven years with similar issues. Nevertheless, Kansas sent more soldiers than any other State in the Union and ultimately suffered more casualties. Twenty thousand Kansans joined; from Johnson County, 500 men enrolled in the Thirteenth regiment, 50 in Company C of the Second Kansas infantry, and others in Company F of the Fourth regiment (Arnold 1931:186). The war came to Kansas first with the return of lawlessness where theft was commonplace, murder was typical, and pillage reigned under the terror of bands of thieves who carried flags during organized daylight raids and separated to pillage for personal profit under cover of night. Under the climate of conflict, settlers accordingly attempted to protect their property of "every description" by caching among underbrush, rocks, and cliffs; weapons were stashed in trees; and horses (most often stolen property) were tethered in cornfields or thickets (Blair 1915:191).

William Quantrill's "Confederate" raids throughout northeastern Kansas are among the most well-documented aspects of the war in Kansas. Starting with about six men, Quantrill's band eventually grew to about 400. He favored the routing of Union members of the Twelfth Kansas whose homes he frequently raided and whose bodies were often found along the roads. Quantrill's forces ultimately raided Olathe, the Johnson County seat in September 1862; the town of Shawnee shortly thereafter; and left the City of Lawrence in ashes on 21 August 1863. With Confederate forces under the command of General Price threatening to invade Kansas while making their way through Arkansas and Missouri, more forces were needed to protect the Kansas border. The call was made to form the Kansas militia, a force of 16,000 who became known as the "Raging Tads" (Arnold 1931:106). This included a 500-man regiment from Johnson County. The Kansas militia met Price's army on the Big and Little Blue rivers in western Missouri as well as Kansas City and Westport. Defeated after six hours of battle at Westport on October 23, 1864, Price turned south and entered Kansas in Linn County, and skirmishes followed at Trading Post Ford, the Mounds, and Mine Creek whereupon his army returned to Missouri and was eventually defeated. No further attacks on Kansas were made. In April 1865 with the Confederate surrender at Appomattox, the Civil War ended.

The last half of the nineteenth century after the Civil War was a period of rural and agricultural dominance supplemented with manufacturing and industry (Historic Preservation Department 1984). Initially, the population was concentrated in the eastern portion of the State and included both Native American and European populations. During the 1860s and 1870s, many of the Indians were moved to Oklahoma reservations which in turn opened Kansas to more European settlement. During the late 1860s, the construction of railroads added to the influx of new immigrants and influenced the locations of towns and the settlement of the western portions of the State. Several factors facilitated the increased migration to Kansas following the Civil War, including the Homestead Act of 1862, railroad land grants, railroad development, improved farm machinery, and increased immigration of Europeans (Self 1978:25). The population of Kansas in 1860 was about 100,000 and by 1865 had reportedly reached 136,000 (Arnold 1931:107). With the Homestead Act of 1862, each homesteader (who had not borne arms against the government) could petition for a tract of 160 acres on condition of settlement, cultivation, and occupancy for a period of five years (minus years of military service). The Act provided the opportunity to acquire public lands for a nominal fee and was well received. Immigrants arrived from Europe, Illinois, Ohio, and the eastern states. According to Blair (1915:112), many were poor with barely enough funds until the first crop. Droughts came in 1869 and in 1874, followed by a blight of grasshoppers that left the landscape in poor condition.

More than four million acres were granted to the railroads in Kansas and another one-half million-acre improvement grant, given to Kansas at statehood, was transferred to the railroads. Added to their purchases of Indian lands, the railroad companies offered homesteaders land at \$1 to \$10 per acre with good terms and reasonable rates of interest. Land offices that promoted the sale of Kansas lands were maintained by the railroads in all the larger U.S. cities and overseas (Baughman 1961:73). Johnson County raised \$100,000 in bonds, and the first railroad construction began at Kansas City in 1866, reaching Olathe in 1868, and opened to Fort Scott by 1869 (Blair 1915:211). During this time, the Atchison, Topeka & Santa Fe railroad was started at Topeka in 1868 and reached the Colorado State line by 1873. A line was built from Kansas City to De Soto by the Kansas Midland Railroad in 1874. Where Lexington had dominated local politics with the pro-slavery movement before the war, De Soto, better tied to Union supporters, ultimately got the railroad after the war.

The Kansas State Grange started in 1872, and the Gardner Grange of Johnson County opened in 1873. The Lexington Grange, held at the old Lexington Hotel on the grounds of today's SFAAP, was also opened in 1873 and a Grange store opened in Prairie Center sometime afterward. Prairie Center was the second community created on the SFAAP grounds. Its first settlement was established in April 1871 (Andreas 1883:641). The post office was created in 1872, followed by a Friends Meeting House, a Methodist Episcopal church, and a Free Methodist church. By 1883, the town boasted a post office, one store, a

smithy, woodworking shop, and about 70 citizens (Andreas 1883:641). Edwin Rice, former resident of Prairie Center until the creation of SFAAP, wrote a manuscript of his recollections of the community in 1975. A map of the town ca. 1941 from his manuscript has been redrafted in Figure I-5 (see also Figure I-4). The Rice map shows one school, a creamery/machine shed, cider mill, two stores, a smithy, service station, Friends Church, Friends parsonage, Methodist Church, and 13 homes. Rice (1975:1) suggests the town was created in about 1869 and that the population normally ranged from 30 to 50 people. Though not a professional historian, Rice's manuscript provides an informative portrayal of life in the community replete with a variety of photographs and rural anecdotes for the 25 years prior to its acquisition by the government. Many other towns were not so well documented and remain only in the memories of their former citizens or as brief entries in such manuscripts as Steed's (1973) "Ghost Towns of Johnson County, Kansas."

Early farming was experimental and in addition to corn, farmers planted buckwheat, sweet and Irish potatoes, fruits, tobacco, grapes, cotton, and watermelons. Cattle and pigs were also raised. Initially, a single farmer would do well to break an acre of ground a day and plow, cultivate, and fence 10 to 12 acres per year (Historic Preservation Department 1987:65). In his article *Who Was Forest Man? Sources of Migration to the Plains*, John Hudson (1986) argues that the "corn belt agricultural complex" that eventually developed throughout the Plains was carried to Kansas by immigrants from Ohio, Indiana, and Illinois where it originated. During the 1880s, livestock production was high and winter wheat proved to be a successful crop particularly in southern Nebraska and central Kansas. During the 1870s and 1880s, methods of irrigation using windmills became common and influenced the siting of farmsteads to locations otherwise devoid of surface water (Baker 1989). These machines permitted many farmers an opportunity to escape the vagaries of weather and were often used with artificial reservoirs that provided suitable fish ponds and ice sources. Another important farm machine introduced during the 1880s was the seed drill, and by 1891 the seed drill was being used throughout Kansas allowing farmers to seed about 8 to 10 acres per day with an eight-foot, two-horse drill machine (Rogin 1931:199, 208).

Early industries included saw and grist mills, brick yards, and stone masonry. Many small towns also supported smithies and carriage and furniture factories. Railroads, responsible for the location and success of many new towns, brought commodities and other manufactured conveniences from eastern states. By the 1890s, drought conditions took a toll on the Plains and other states that caused a depression to the local economies and significant out-migration, particularly among the western and central counties. The railroad survived and soon supported the production and maintenance of railroad cars and locomotives. Glass factories, harness and saddle-making, meat packing, and soap and candle-making flourished during the late century. Commercial natural gas production began in Miami County south of SFAAP in 1884 when a seven-mile pipeline was laid to Paola for heating and lighting. Additional exploration encountered other gas fields in eastern Kansas during the 1880s and 1890s. Natural gas also occurs in Johnson County and beneath SFAAP though its volume is insufficient for commercial production (see Appendix E).

The last quarter of the nineteenth century also brought improved roads and bridges along with the railways. Telegraph poles traced most railroad lines, followed by telephone and electrical lines after 1900. During the 1890s, State services developed welfare institutions that included—in the terms of the times—"asylums, reform schools, orphanages, and special schools for the deaf, dumb, and blind." Hospitals were also created by local communities and religious groups. Public or "common" schools had been mandated since the 1859 Wyandotte Convention, and many of the early schools were subscription schools where communities created one-room schoolhouses and contracted and housed teachers in different community homes (Historic Preservation Department 1987:57). By 1914 there were 97 school districts organized in Kansas with 82 one-teacher schools. A male teacher in a one-teacher school was paid an average salary of \$64.75 per month, while the average salary for a female teacher with the same responsibility was \$48.25 (Blair 1915:210). Two schoolhouses were documented within SFAAP by the 1874 Heisler and Smith Atlas, one near Prairie Center and another near the former community of Lexington (see Figure I-4). Another schoolhouse was added near the eastern perimeter by 1928. With the improved roads of the twentieth

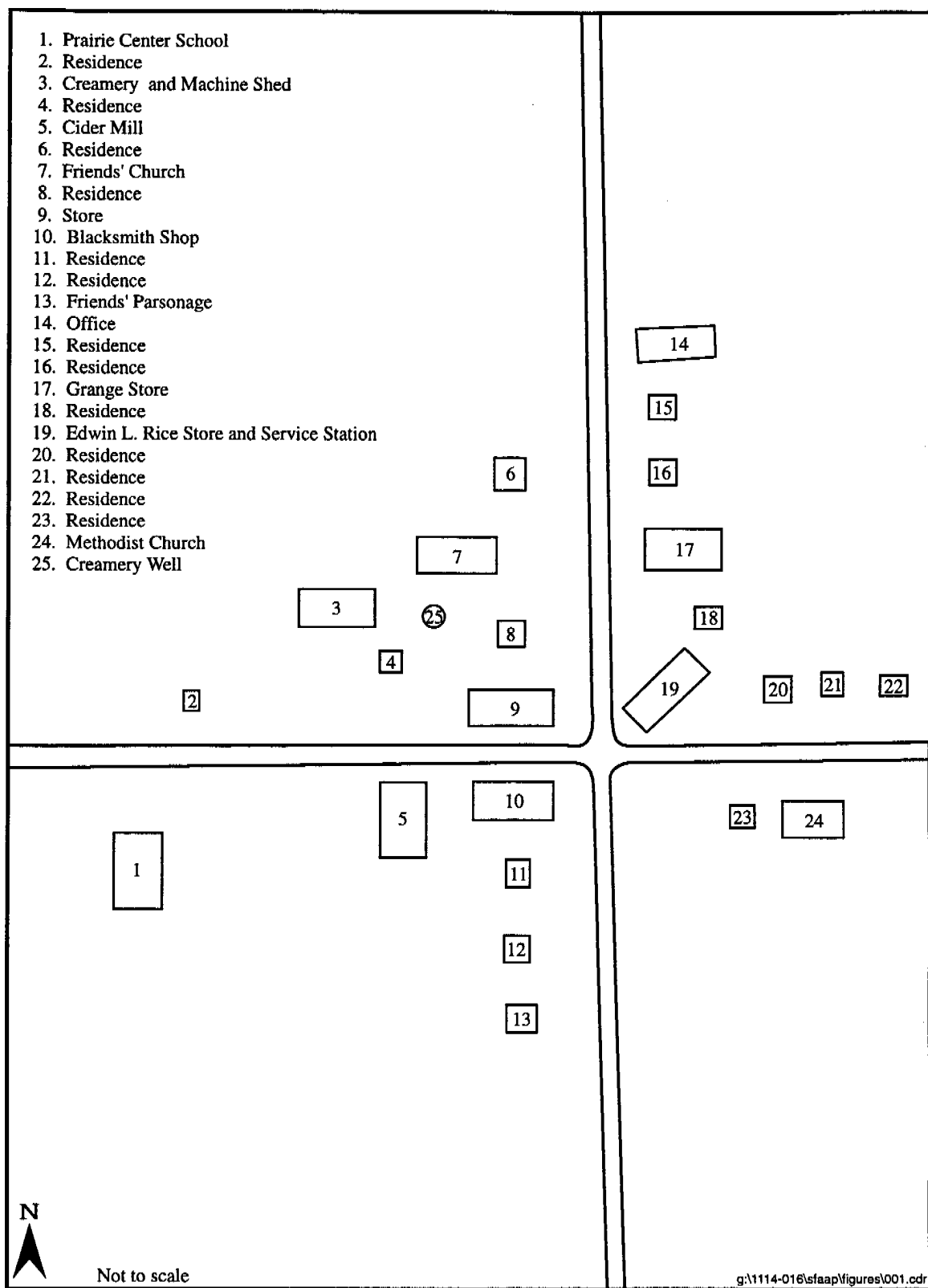


Figure I-5. Sketch map of Prairie Center (after Rice 1975).

century and the creation of school buses after World War II, many of the one-room schoolhouses were replaced by consolidated institutions.

Lees (1989:74) describes the first four decades of the twentieth century as a time of contrasts. Though agriculture continued to play a major role in Kansas economics, it became more mechanized and diversified. In southeastern Kansas, industries developed the mining of zinc and coal and continued to increase oil and natural gas production. The automobile introduced a new means of transportation for people and commodities. World War I and the Great Depression were other significant events for Kansas as elsewhere during the period.

According to Self (1978:98), the original 160-acre homesteads were often not large enough to provide sufficient tillable land and pasture to provide suitable economic return. During the early twentieth century, many farms consolidated; by 1910 the average farm size was 244 acres, and by 1954 the average farm size had grown to 416 acres. The consolidation of farms was also supported by the increase in improved farm machinery. Self (1978) suggests that most of the essential farm machinery had arrived in Kansas by 1900, including the steel plow, the sulky plow, the spring-tooth harrow, the grain drill, the McCormick reaper, wire binders, twine binders, threshing machines, and the combine. The tractor that eventually replaced draft animals became common after World War I. In 1915 there were 3,000 tractors in Kansas compared to 1,400,000 horses and mules. By the 1930s, there were more than 70,000 tractors in Kansas, and horses and mules had declined to about 700,000 (Self 1978:101). Other modern machinery including the corn picker, hay machines, forage harvesters, and milking machines were common in Kansas after World War II (Self 1978:101). The continued improvements in farm machinery brought new economic opportunities to those that could afford them and created specialized farm services such as haying or harvesting. Some farmers derived their entire livelihood from providing a suite of farm services to numerous farms over large areas.

The first quarter of the twentieth century brought an increase in manufacturing to the larger cities of Kansas, particularly Kansas City, Topeka, Wichita, Lawrence, and Atchison. Many of the industries were small operations with fewer than 50 workers. In 1919 manufacturing employed 72,479 workers that diminished to 57,341 by 1929 (Self 1978:169). According to Culp's (1987) unpublished history of De Soto, Johnson County continued to grow after 1900 due to the interurban railroad and automobile that made the area more accessible to Kansas City. Today's cultural landscapes of suburban development formed after World War II. When the United States entered World War I in 1917, Kansas contributed 10,000 volunteers, and after Congress passed the Compulsory Service Act, 55,000 Kansans were summoned for the effort. By the war's end, over 77,000 Kansans had entered the armed forces (Arnold 1931:132-133).

In *The Great Plains Experience; the Great Depression*, Gressley and Scolofsky (1970) discuss the large scale unemployment ravaging the country during the depression of the 1930s and the plummeting prices for farm products. Unemployment reached the Kansas farms, and foreclosures of small farm operations and businesses, bankruptcies, and displacement of tenant farmers were numerous. Compounded by drought, extraordinary changes in temperature, dust storms, and floods, the depression was deeply felt in Kansas. The environmental conditions of the "Dust Bowl" included portions of western Kansas though the present study area was not so devastated.

Following Germany's invasion of Poland in September of 1939, Great Britain and France declared war. It was not long before the United States also entered the war in 1941. Life for the farmers changed in late 1941, when it was officially announced in the local paper that the Army had chosen the area around Prairie Center for construction of an ordnance facility. The land purchased for the plant came from about 150 farms and the community of Prairie Center (MacDonald and Mack Partnership 1984). During construction the area experienced a considerable boom as did other locations where similar plants were created. The Sunflower Ordnance Works provided jobs for many people during the war years. Temporarily, the facility

changed the agriculturally based community to one based on a war industry. During the war years, many of the local farmers temporarily gave up farming for better wages at the plant.

As consolidation of farms has increased throughout the twentieth century, many farmers have left the occupation, and countless small farms have been abandoned. With an out-migration or movement to cities related to the abandonment of farms, the rural communities changed, schools and churches consolidated, and a new cultural landscape emerged during the twentieth century. The farmstead remains that exist on SFAAP represent a potential time capsule of rural agricultural life that existed prior to World War II and may also contain cultural deposits from earlier periods. As archeological survey and evaluation of SFAAP cultural resources continues, it will become more evident what the condition of the historic sites is below the surfaces of grass and forest that now preside over the facility. Presently, it is not apparent whether the razing of the 1940 farm structures, the construction of the military facility, and the continued agricultural use of the landscape has destroyed or preserved subsurface cultural deposits. Such a determination will require archeological fieldwork in the form of survey and testing.

H. Cultural Resources at SFAAP

1. Definition of Classes of Historic Properties

Five major classes of cultural resources may be listed in the NRHP. These classes are based on the function or character of the resource at the time it achieved significance rather than its present state. According to 36 CFR Part 60.3, these five classes are:

- Building** "A building is a structure created to shelter any form of human activity, such as a house, barn, church, hotel, or similar structure. Building may refer to a historically related complex such as a courthouse and jail or a house and barn.
Examples: Molly Brown House (Denver, CO)
Meek Mansion and Carriage House (Hayward, CA)
Huron County Courthouse and Jail (Norwalk, OH)
Fairtosh Plantation (Durham vicinity, NC)"
- Structure** "A structure is a work made up of interdependent and interrelated parts in a definite pattern of organization. Constructed by man, it is often an engineering project large in scale.
Examples: Swanton Covered Bridge (Swanton vicinity, VT)
Old Point Loma Lighthouse (San Diego, CA)
North Point Water Tower (Milwaukee, WI)
Reber Radio Telescope (Green Bay vicinity, WI)"
- District** "A district is a geographically definable area, urban or rural, possessing a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united by past events or aesthetically by plan or physical development. A district may also comprise individual elements separated geographically but linked by association or history.
Examples: Georgetown Historic District (Washington, DC)
Martin Luther King Historic District (Atlanta, GA)
Durango-Silverton Narrow-Gauge Railroad (right-of-way-between Durango and Silverton, CO)"
- Site** "A site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself maintains historical or archeological value regardless of the value of any existing structure.
Examples: Cabin Creek Battlefield (Pensacola vicinity, OK)
Mound Cemetery Mound (Chester vicinity, OH)
Mud Springs Pony Express Station Site (Dalton vicinity, NE)"

Object "An object is a material thing of functional, aesthetic, cultural, historical or scientific value that may be, by nature or design, movable yet related to a specific setting or environment.

Examples: Delta Queen Steamboat (Cincinnati, OH)
 Adams Memorial (Rock Creek Cemetery, Washington, DC)
 Sumpter Valley Gold Dredge (Sumpter, OR)"

Of these five major classes of resources, buildings, structures, sites, and objects are presently recognized within SFAAP.

2. Previous Archeological Research

Previous archeological work conducted at SFAAP consists of one informal reconnaissance, three formal field efforts, and a management plan. In 1968, Eoff and Hill examined an undefined portion of the Kill Creek floodplain vicinity. Formal surveys were carried out by Adair in 1975 and by Feagins in 1989. A previously recorded site was tested by Feagins in 1990; and a management plan, which included no fieldwork, was completed by Nickens and Associates for Woodward Clyde and the National Park Service in 1985. The field investigations covered approximately 600 acres of the 9,542-acre installation and recorded seven archeological sites.

a. Eoff and Hill (ca. 1968)

The informal archeological reconnaissance by John Eoff and Mike Hill in 1968 that examined the undefined portion of the Kill Creek floodplain vicinity recorded six prehistoric sites within the facility perimeter: sites 14JO6, 14JO49, 14JO50, 14JO51, 14JO52, and 14JO53. No report was prepared from the study, although appropriate State site forms were completed and are on file at the State Archeologist's office in Topeka.

b. Adair (1975)

Of the formal archeological studies conducted at SFAAP, the first study was an archeological survey conducted by Mary Adair in 1975. According to Adair's report, the survey covered 375 acres surrounding the then proposed nitroguanidine manufacturing plant (Adair 1975). Plotting Adair's map of the survey area onto modern maps with using a Geographic Information System, the acreage surveyed by Adair was actually 585 acres (Figure I-6). The survey was conducted using pedestrian reconnaissance, though no interval between transects was indicated. Despite inspection of numerous deep cuts by construction bulldozers, no prehistoric materials or sites were identified. Several pieces of modern china and metal fragments were located in an unspecified location, and a stone-lined well was also observed although no historic sites were recognized by the inventory. Given the emphasis on locating prehistoric sites at the time of the survey, the Kansas SHPO recognizes the survey as adequate for prehistoric sites and accepts that no prehistoric sites were located within the survey unit. However, as intensive surveys in Kansas have only recently begun to address historic sites, the survey is considered incomplete for historic sites (Barry Williams, personal communication 1994). Based on an examination of historic atlases, it appears that one farmstead was documented within the Adair survey area by the 1874 Heisler and Smith Atlas, and another was documented within the survey area on the 1902 George Ogle and Company Atlas.

c. Nickens and Associates (1985)

Nickens and Associates (1985) completed an archeological overview of and management plan for SFAAP under contract with Woodward Clyde and the National Park Service for AMC. The work was required by

the Army's Materiel Development and Readiness Command (DARCOM). The overview did not include any archeological fieldwork but identified 73 potential historic sites, consisting of schools, farmsteads, and one church, based on a review of a 1928 soils survey map (Knoebel and Davis 1928) and interviews with Hercules staff (Nickens and Associates 1985:2-23). The number of sites predicted in the overview/management plan is limited to those represented on the 1928 soils map and six sites then known by Hercules staff. Unfortunately, the study does not appear to have examined the three historic atlases available for Johnson County (Heisler and Smith 1874; George Ogle and Company 1902, 1922) or the USGLO surface plats. Collectively, these maps show approximately 92 farmsteads, stores, schools, churches, a meeting house, a creamery, a mill, historic trails, and the towns of Lexington and Prairie Center that existed on the facility between 1854 and 1928. However, it should be stressed that because settlement in Johnson County existed for 20 years before the first atlas was published, it is not possible to accurately predict how many historic sites may exist on the facility. The prediction of settlement locations between 1854 and 1874 is complicated by the fact that the early settlement was not well-documented and the preferred variables of homestead siting were not recorded. Also, the unusual conditions of the 1854-1865 settlement with raiding, pillaging, and burning of homesteads imply that an unknown quantity of property caches, short-term encampments, and short-lived/failed homesteads are likely to exist that were not documented by the 1874 Heisler and Smith Atlas.

d. Feagins (1989)

A third archeological investigation was conducted on SFAAP lands for a 1.4-mile-long access road passing through the SFAAP facility en route to a neighboring stone quarry (Feagins 1989). The road was an existing gravel road that required widening and resurfacing. No width of the road improvement was presented. The survey covered a total of 15 acres and employed both pedestrian transects and judgmental shovel testing (15-m intervals) within areas marked by vegetation cover. One site, 14JO49, had been previously recorded along both sides of the roadway. Examination of site 14JO49 included shovel testing on both sides of the road. A collection of prehistoric artifacts was recovered and consisted of five small chert cores, 26 flakes, three utilized flakes, a biface, thermally altered sandstone, mussel shell, and a sand-and-shell-tempered ceramic sherd. The collection was interpreted as representing a temporal affiliation with the Early or Middle Ceramic period. Three historic artifacts were also recovered that included rusted iron, pale green bottle glass, and a stoneware sherd with Albany slip glaze on both surfaces. No map of the site was presented in the report, and there was no indication of where the material was collected. The report concluded that, if the road were to be widened as originally proposed, a portion of the northern site area would be impacted. It was recommended that the site be avoided by selecting an alternative route, or if that was not possible, a Phase II examination of the site be performed to evaluate the eligibility of the site for possible listing in the NRHP. No further archeological work was performed for the access road.

e. Feagins (1991)

In 1990 Feagins returned to SFAAP to conduct archeological testing of previously recorded site 14JO51 for the proposed expansion of the nearby quarry. Site (14JO429) was also tested, although it lies outside the limits of the Army facility. During the field effort, a new site (14JO120h) consisting of two related masonry bridge abutments was recorded within the facility (see Figure I-6).

Feagins testing was limited to the quarry (eastern) side of the site and did not examine the western portion of the site that is within SFAAP. The testing consisted of the excavation of four test units and the removal of sod by a bulldozer. The total sample recovered consists of four flakes, a prehistoric ceramic sherd, three pieces of fired clay, and a small fragment of unidentified bone within the plow zone between 0 and 20 cm below

surface. Additionally, a wire nail was recovered from near the interface of the bottom of level two and the plow zone in one of the units. None of the units was excavated below 30 cm, although a soil auger was used in two units to examine the sediments to a depth of about 130 cm. No deep testing was performed. The report concluded that all recovered cultural materials were contained within the plow zone in a disturbed context resulting from either agricultural or rodent activities. On this basis, the eastern side of site 14JO51 was considered ineligible for listing in the NRHP, with any further work likely duplicating the information already obtained (Feagins 1991:50).

f. Summary

In summary, approximately 40 percent of the 9,542-acre facility has been either surveyed or excluded from survey because of disturbance to the near-surface ground. Remaining to be surveyed are approximately 5,639 acres of land that could potentially contain prehistoric archeological sites. [REDACTED] Based on the testing of four square meters—located on land adjacent to the facility—of the site, [REDACTED] considered ineligible for NRHP inclusion (Feagins 1991:50); however, no investigation of the western part of the site was conducted. Therefore, the site as a whole is considered of unknown eligibility. None of the remaining six sites has been tested; all are currently of unknown eligibility.

3. Evaluation of Present Data Base

The present data base for SFAAP is the result of the DARCOM archival research (Nickens and Associates 1985), two small cultural resources surveys (Adair 1975; Feagins 1989), one archeological testing report (Feagins 1991), and an architectural historic properties report based on architectural inventories and assessments of buildings and structures at the facility (MacDonald and Mack Partnership 1984). At the present time, the data base provides a preliminary measure of the distribution of both prehistoric and historic archeological sites. The exact character and significance of the prehistoric and historic cultural resources is not well-defined due to the limited nature of the survey data and the few test excavations conducted. Nevertheless, research has successfully demonstrated that prehistoric cultural resources with components related to the Woodland/Middle Ceramic period are present on SFAAP and suggests that other cultural components are also likely.

The dating of most prehistoric sites has been limited to the surface collection of time-sensitive artifacts such as projectile points and ceramics. The survey work performed thus far has been concentrated within a few locations on the facility. Consequently, it is not possible to identify which portions of SFAAP were favored during different prehistoric periods, nor is it possible to address the subject of settlement patterns or population dynamics for the prehistoric period.

Research suggests that many prehistoric sites that have been documented in Johnson County represent short-term processing stations and extraction camps where people gathered and processed resources and camped during hunting, gathering, and fishing forays. These forays probably originated from larger base camps or villages in the area. The floodplains of Kill and Spoon creeks in the eastern portion of the facility and Captain Creek in the western portion of the plant may very well have provided suitable locations for winter villages. The depositional settings of these floodplains may contain deeply buried cultural deposits from any prehistoric cultural period. No large village sites are currently known to exist at SFAAP, although that does not preclude their occurrence. There are no known rockshelters or stone quarries with tool-quality raw material present. However, as indicated in the geologic and environmental discussion (see Appendix E), the Captain Creek Limestone member of the Lansing Group occurs in northwestern Johnson County and is reported to contain small quantities of pink and gray chert nodules. These cherts may have provided a suitable source of usable stone for the production of stone tools. Although no rockshelters have been

reported for the immediate area, the variety of limestone escarpments along some of the drainages may contain potential rockshelters used during both prehistoric and historic times.

As archeological survey and testing efforts continue at SFAAP, additional information regarding prehistoric cultural chronology and assemblage composition, settlement patterns, social organization, mortuary practices, and other issues may be gathered. Survey data will provide locational information, although testing and data recovery efforts are normally required to address some of the larger and more complex research issues. Areas of traditional religious and cultural importance to Native Americans remain to be identified.

As of 1994, no test excavations have been conducted on historic sites on SFAAP. A preliminary examination of the overall SFAAP facility made during this study indicates that there is a strong likelihood that many of the historically documented farmsteads and related sites may remain in fair condition since modern construction and agricultural activities appear to have avoided many of the former farm complexes. While no standing structures remain and some cellars have been partially filled, it is considered likely that many of the preinstallation historic sites retain some of their nineteenth- and twentieth-century cultural deposits.

Archivally identified historic sites at SFAAP include farmsteads, isolated rural residences, schools, churches, and rural agricultural processing and storage sites such as mills and granaries. Two town sites, Lexington (1857-1864) and Prairie Center (ca. 1870 to 1941), several Indian land claims, and stagecoach roads including a stretch of the Oregon Trail were historically documented on SFAAP lands. Historic records available from agricultural and population census data, land and probate records, newspapers, tax records, and family histories may supply a wealth of historical information that may be combined with the archeological studies to identify those sites that have the greatest information potential.

Building and structure evaluations conducted to date provide an accurate assessment of the military built environment. The military architectural resources on SFAAP have been mitigated through concurrence by the Kansas SHPO and the Inactivation PA.

4. Identification of Sensitive Areas

SFAAP is generally characterized by rich soils, plentiful water supply, and forested and open prairie environments. Some areas of SFAAP, such as perennial stream floodplains and associated upland areas near the floodplains are considered to have a greater cultural resources sensitivity than others which are located farther from water access. Survey and reconnaissance data that have been gathered to date indicate that archeological sites may occur throughout the installation. Section II provides a sensitivity model for areas in which the potential for archeological resources is considered to be high.

Through concurrence by the Kansas SHPO, the preinstallation Roberts house is eligible for inclusion in the NRHP. Therefore, the Army has the responsibility of managing and protecting this historic property.

SFAAP as an installation is considered historically important due to its association with the events of World War II. Although the Army considers the buildings and structures associated with the World War II plant to be historically significant, nonetheless, any loss to the pre-1946 built environment of the facility—with the exception of the Roberts house—resulting from transfer of title into private ownership, planned demolition, or ruination through disuse has been mitigated through the treatment stipulated in the Inactivation PA, with concurrence by the Kansas SHPO. SFAAP buildings, structures, or objects dating to the Cold War era do not meet Criteria Consideration G for exceptional significance that is applied to resources less than 50 years in age and, therefore, are considered ineligible for NRHP inclusion.

I. Integration of Cultural Resources Management with Installation Mission

The management goals or missions of SFAAP reflect its function as an AMC supply and maintenance installation and a government-owned contractor-operated military industrial installation.

The general mission of SFAAP is to:

1. operate and maintain active facilities in support of current operations and maintain and/or layaway stand-by facilities (including machinery and package lines received from industry or other government installations) in condition to permit rehabilitation and resumption of production within prescribed time limitations;
2. perform receipt, surveillance, maintenance, renovation, storage, physical inventory, issue, demilitarization, and salvage of field service stocks, items of industrial stocks, and international logistics requirements stocks;
3. perform procurement, receipt, storage, and issue of necessary supplies, equipment, components, and essential materials;
4. perform industrial readiness planning and emergency mobilization planning, including preparation, review, and revision of prescribed plans;
5. perform product assurance functions in support of procurement and production;
6. perform production engineering and process engineering; and
7. provide support services for tenants.

The specific mission of SFAAP is to:

1. manufacture propellants and chemical materials;
2. provide support and surveillance of modernization and expansion program;
3. perform receipt, storage, and shipment of propellant for other government agencies;
4. operate industrial wastewater treatment facilities (IWTF); and
5. monitor environmental compliance and installation restoration program.

The SFAAP mission may also involve demolition and other undertakings that may seriously impact cultural resources. As stipulated in the Inactivation PA, the current plan to inactivate the facility will result in changes in maintenance levels for buildings and structures. Adverse effects to the military-related architecture have been mitigated by appropriate documentation of the SFAAP architectural resources and through concurrence by the Kansas SHPO. SFAAP is responsible, however, for the management of the archeological cultural resources and the Roberts house as directed by Federal law and regulations.

- The SFAAP Commander, or the Commander's Representative, is the person ultimately responsible for compliance with Federal and agency cultural resources laws, regulations, policies, and guidelines. His or her designated HPC will implement the CRMP.
- The overall responsibility for cultural resources management is that of the designated HPC who will oversee the cultural resources preservation program on a daily basis and will be the main contact for any projects that might impact cultural resources. The HPC will monitor the compliance with the CRMP.

SFAAP is responsible for the design and supervision of the undertakings that may impact historic properties at SFAAP. The installation is responsible for the preparation of 1391s (justification for projects and requests for funds) with an awareness of the environmental and cultural concerns prior to submission. As future projects and/or surveys of the facility are undertaken, it is suggested that the appropriate staff at SFAAP instigate a tracking system or data base concerning the location and significance of the cultural resources for two critical reasons:

- with ready access to such information, design tasks may proceed with full knowledge of the location and significance of historic properties; and
- construction or demolition projects and maintenance work may proceed without the delay caused by discovery or identification of a previously known or unknown archeological site during work or through late coordination on cultural resources.

It is imperative to integrate information concerning cultural resources into a centralized data base for all resources. With the completion of the inventory process, managers will have a knowledge of site locations and significance that will consequently permit cultural resources to be considered in the design stage of scheduled tasks. The end result will be the efficient fulfillment of mission tasks and responsibilities in conjunction with the preservation of historic properties in a timely and cost-effective manner.

J. Confidentiality of Archeological Resources Information

It is important to recognize that sensitive locational information concerning historic properties can be protected under NHPA Section 304(a) and (b) [16 U.S.C. § 470w-3] and 43 CFR Part 7.18. Because archeological sites are susceptible to vandalism, the locations of archeological cultural resources may not be made known to the public or to Army personnel except on a need-to-know basis [AR 420-40, Part 4-8]. Therefore, the Federal land manager—if deemed necessary—may not make available to the public, under these or any other provision of the law, information concerning the nature and location of any archeological resources.

